
Table of Contents

Chapter One – Introduction

Lines of Authority and Communication.....	1-1
Safety.....	1-3
Safety Measures During Prestressing	
Safety Measures During Movement of Structural Members	
Equipment.....	1-5
Plans and Specifications.....	1-5
INDOT Technician Requirements.....	1-6
Terminology.....	1-6

Chapter Two – Notification and Fabrication

Notification.....	2-1
Prefabrication Meeting.....	2-1
Office.....	2-2

Chapter Three – Materials

Reinforcing Bars.....	3-1
Prestressing Strand.....	3-1
Concrete.....	3-1
Cement and Pozzolans.....	3-2
Aggregates.....	3-2
Admixtures.....	3-3
Mixing and Curing Water.....	3-3
Concrete Plant.....	3-3
Mix Designs.....	3-3
Elastomeric Bearing Pads.....	3-4

Chapter Four – Casting bed

Concrete Forms.....	4-1
Reinforcing.....	4-2
Splices.....	4-3
Prestressing.....	4-4
Elongation.....	4-5
Prestressing System.....	4-6
Initial Tensioning of Straight Strands.....	4-7
Initial Tensioning of Draped strands.....	4-8
Up-Lift and Hold-Down Devices.....	4-10
Strand Splices.....	4-11
Measuring Elongation.....	4-12
Example Computations for Elongation	

Temperature Variations.....	4-13
Example Computations for Temperature Correction	
Slippage of Strand Anchors.....	4-15
Movement of Anchorage Abutments.....	4-16
Elongation of Abutment anchoring Bolts.....	4-16

Chapter Five – Concrete Placement

Testing.....	5-1
Entrained Air.....	5-1
Slump.....	5-2
Strength.....	5-2
Water/Cementitious Ratio.....	5-2
Mixing.....	5-2
Placing.....	5-3
Concrete Compressive Test Specimens.....	5-5
Curing.....	5-7
De-Tensioning.....	5-8
Multiple Strand Release.....	5-9
Single Strand Release.....	5-10
Draped Pre-Tensioned Strands.....	5-10
Removal of Forms.....	5-11
Sealing of Surfaces.....	5-11

Chapter Six – Weather Influence

Cold Weather Fabrication.....	6-1
Hot Weather Fabrication.....	6-1

Chapter Seven – Inspection of Completed Structural Members

Checking Dimensions.....	7-1
Checking Camber.....	7-1
Checking Plumb.....	7-3
Defects.....	7-3
Minor Defects	
Inspection and Repair of Surfaces	
Cracks	
Major Defects	
Rejection of Structural Member	

Chapter Eight- Handling, Storage, and Transportation of Structural Members

Handling	8-1
Storage.....	8-1
Transportation.....	8-2

Chapter Nine – Acceptance and Release for Shipment

Breaking Test Specimens.....	9-1
Stockpiled Material.....	9-1
Acceptance Forms.....	9-1
IT 573 (Yellow Card)	
IC 734	
IC 737	
IC 736	
IC 735	
Pour Sheet	

Chapter Ten – SiteManager

SiteManager Panel.....	10-1
Basic Sample Data Tab.....	10-3
Additional Sample Data Tab.....	10-5
Contract Tab.....	10-6
Other Tab.....	10-7
Test Tab.....	10-7
Test Method Data Entry.....	10-8
Adding Attachments.....	10-9
Review and Completion of SiteManager Data Entry.....	10-11
Find Samples.....	10-11

Appendix A

IC 734 Inspection Form	
IC 735 Inspector's Log	
IC 736 Tensioning Record	
IC 737 Plant Computation Report	
Pour Sheet	